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PRECAST SLAB (CORE) TEST REPORT

nt	:	Bruhat Bangalore Mahanagara Palike
ractor	:	M/s KRIDL
e of Work	:	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Sample Tested	:	3
f Testing	:	23.01.18
nical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
e of Concrete	:	M_{20}. 100mm thick

	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
	50.00	90.00	0.457	2586.09	1.80	0.960	38.52	19.69	21.27	20.41	25.52
	50.00	90.00	0.458	2591.75	1.80	0.960	38.52	19.56	21.12	20.28	25.35
	50.00	90.00	0.500	2829.42	1.80	0.960	38.55	19.60	21.17	20.32	25.40

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PRECAST SLAB (CORE) TEST REPORT

	:	Bruhat Bangalore Mahanagara Palike
	:	M/S KRIDL
		TEJUS CONSULTANTS
Work	:	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
ple Tested	:	3
Testing	:	23.01.19
Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Concrete	:	M_{20}. 250mm Thick

Dia of Core (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
100.00	180.00	3.385	2394.40	1.80	0.960	157.00	19.99	21.59	20.73	25.91
100.00	180.00	3.380	2390.86	1.80	0.960	157.50	20.05	21.66	20.79	25.99
100.00	180.00	3.390	2397.93	1.80	0.960	156.95	19.98	21.58	20.72	25.90

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

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Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	M/s KRIDL		
Proposed Use	WMM	**Date of Sampling**	**18.02.2019**
Sample Location	**At plant**	**Date of Testing**	**18.02.2019**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	389.00	375.00	381.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	297.00	288.00	296.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	92.00	87.00	85.00	
4	Aggregate Impact Value (%)	(Wc/Wa)* 100	23.65	23.20	22.31	
5	Average Aggregate impact value	(%)	23.05			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/s KRIDL

Type of Material	WMM	**Proposed Use**	WMM
Sample Location	At plant	**Date of Sampling**	18.02.2019
		Date of Testing	18.02.2019

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	915	85	910	85
16.0	12.5	1303	92	1121	121
12.5	10.0	489	87	429	65
10.0	6.3	560	76	451	45
Total		**3267**	**340**	**2911**	**316**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.41
Elongation Index(%):	10.86
Combined FI+EL (%)	21.26

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Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/s KRIDL

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

Date of Testing	**18.02.2019**
Layer no. or level	WMM I layer
Depth of hole	250mm

Field density:	**1**	**2**	**3**
Wt. of wet material from hole (Ww) gms.	6551	6243	6542
Wt. of sand+cylinder before pouring (w1) gms.	14000	14000	14000
Wt. of sand+cylinder after pouring (w2) gms.	9596	9785	9608
Wt. of sand in cone (w3) gms.	832	810	838
Wt. of sand in hole (w4)=(w1-w2-w3) gms.	3572	3405	3554
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.42	2.42	2.43
Moisture meter reading(moisture content)	12.43	12.45	12.47
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.15	2.15	2.16
MDD	2.19	2.19	2.19
OMC	12.59%	12.59%	12.59%
% of Compaction Obtained	98.32	98.28	98.65
Compaction Required	98%	98%	98%

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GRADATION FOR WMM
(As per MORT&H 400-11)

Name of Work	:	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/s KRIDL
Date of Testing	:	18.02.2019
Type of Mix	:	WMM
Sample I/D	:	WMM 1

Sample Location:	At plant	**Date of Sampling:**	18.02.2019
Type of material & Purpose:	WMM	**Date of testing:**	18.02.2019
		Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained (gm)	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	361	361	3.61	96.39	95-100
22.4	2312	2673	26.73	73.27	60-80
11.2	1860	4533	45.33	54.67	40-60
4.75	1902	6435	64.35	35.65	25-40
2.36	1351	7786	77.86	22.14	15-30
0.6	1210	8996	89.96	10.04	8.0-22.0
0.075	864	9860	98.60	1.40	0-8
Pan	140				
Total	10000				

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Test Report on Cement

	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
	Bruhat Bangalore Mahanagar Palike
	TEJUS CONSULTANTS
	M/s KRIDL
	Cement
	25.02.19
	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	39 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	358 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	3mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.50%	25 % to 35

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TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/s KRIDL
Total Weight in gms	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	Proposed Use	PCC
Sample Location	At Site/Plant	Date of Sampling	25.02.19
		Date of Testing	25.02.19

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	125	125	4.17	95.83	95-100
20.00mm	1369	1494	49.80	50.20	30-70
10.00mm	912	2406	80.20	19.80	10-35
4.75mm	490	2896	96.53	3.47	0-5
Pan	104	3000	100.00	0.00	

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

	BRUHAT BENGALORE MAHANAGARA PALIKE
	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
ants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
ator	M/s KRIDL

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Material	Fine aggregate (River Sand/ M sand)	**Proposed Use**	PCC
Source	At Site/Plant	**Date of Sampling**	25.02.19
of Soaking	24 hours	**Date of Testing**	25.02.19

	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
	Weight of sturated surface dry sample gm.	662	635	682	↓
	Weight of oven - dry sample gm.	652	621	670	
	Weight of Pycnometer Filled with water gm	1275	1275	1275	
	Weight of Pycnometer + sample + water gm	1685	1690	1697	
	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.587	2.823	2.577	2.662
	Absorption (%) $\frac{(A-B)*100}{B}$	1.534	2.254	1.791	1.860

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Consultants	Tejus Consultants, Bangalore
Contractor	M/s KRIDL

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Sample Location	At Site/Plant	Date of Sampling	25.02.19
		Date of Testing	25.02.19

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	228	228	7.60	92.40	90 - 100
2.36 mm	330	558	18.60	81.40	75 - 100
1.18 mm	315	873	29.10	70.90	55 - 90
0.600 mm	482	1355	45.17	54.83	35 -59
0.300 mm	825	2180	72.67	27.33	8-30
0.150 mm	650	2830	94.33	5.67	0 - 10
Pan	170	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

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Test Report on Cement

Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s KRIDL
Sample ID	Cement
Date of Sample Tested	28.02.2019
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	37 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	351 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	25 % to 35

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Consultants	Tejus Consultants, Bangalore
Contractor	M/s KRIDL

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Sample Location	At Site/Plant	Date of Sampling	28.02.2019
		Date of Testing	28.02.2019

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	225	225	7.50	92.50	90 - 100
2.36 mm	312	537	17.90	82.10	75 - 100
1.18 mm	450	987	32.90	67.10	55 - 90
0.600 mm	485	1472	49.07	50.93	35 -59
0.300 mm	720	2192	73.07	26.93	8-30
0.150 mm	650	2842	94.73	5.27	0 - 10
Pan	158	3000			-

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli	
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Contractor	M/s KRIDL	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	Concrete
Sample Location	Plant/At site	**Date of Sampling**	28.02.2019
		Date of Testing	28.02.2019

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	288	288	2.88	97.12	95 - 100
10.00 mm	4885	5173	51.73	48.27	25 - 55
4.75 mm	4110	9283	92.83	7.17	0 - 10
Pan	717	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Consultants	TEJUS CONSULTANTS
Contractor	M/s KRIDL
Total Weight:	10000 gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	At Site/Plant	**Date of Sampling**	28.02.2019
		Date of Testing	28.02.2019

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	560	560	5.60	94.40	90-100
10.0	4680	5240	52.40	47.60	40-85
4.75	4555	9795	97.95	2.05	0-10
Pan	205	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s KRIDL
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	28.02.2019	07.03.2019	7 days	8.130	22500	410	18.22	18.09
2	28.02.2019	07.03.2019	7 days	8.128	22500	406	18.04	
3	28.02.2019	07.03.2019	7 days	8.137	22500	405	18.00	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to roads and drains at Kodigehalli village from 4th to 5th cross and other roads in ward No. 08, Kodigehalli
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/s KRIDL
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	28.02.2019	28.03.2019	28days	8.132	22500	680	30.22	30.13
2	28.02.2019	28.03.2019	28days	8.134	22500	678	30.13	
3	28.02.2019	28.03.2019	28days	8.129	22500	676	30.04	

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